

5

10

15

20

25

30

- 1. A method for inhibiting replication of reverse transcriptase dependent virus in animal cells, comprising the step of administering to said cells a compound that depletes the intracellular pool of deoxyribonucleoside phosphate in an amount effective to inhibit replication of said virus.
 - 2. The method of Claim 1/wherein said virus is a retrovirus.
- 3. The method of Claim 1, wherein said deoxynucleoside phosphate depleting compound is a deoxynucleotide synthesis inhibitor.
- 4. The method of Claim 1, wherein said deoxynucleoside phosphate depleting compound is an inhibitor of ribonucleotide reductase.
 - 5. The method of Claim 4, wherein said compound is hydroxyurea.
 - 6. The method of Claim 1, wherein said cells are in vitro.
 - 7. The method of Claim 1, wherein said animal cells are mammalian cells.
- 8. The method of Claim 1 wherein said virus is the human immunodeficiency virus (HIV) and said cells are human cells.
- A method for inhibiting replication of reverse transcriptase dependent virus in animal cells, comprising the steps of administering to said cells a compound that depletes the intracellular pool of deoxyribonucleoside phosphate, in conjunction with administering to said cells an antiviral nucleoside phosphate analog.
- 10. The method of Claim 9, wherein said deoxynucleotide phosphate depleting compound is an inhibitor of ribonucleotide reductase.
 - 11. The method of Claim 10, wherein said compound is hydroxyurea.
- 12. A method for inhibiting replication of reverse transcriptase dependent viruses in animal cells, comprising the steps of administering to said cells a first compound that depletes the intracellular pool of deoxyribonucleoside phosphate, in conjunction with a second compound that serves to inhibit replication of said virus by terminating DNA chain elongation.
- 13. The method of Claim 12, wherein said second compound inhibits replication by premature termination of viral DNA synthesis to produce incomplete viral DNA.
- 14. The method of Claim 12, wherein said first compound is an inhibitor of ribonucleotide reductase.
 - 15. The method of Claim 14, wherein said first compound is hydroxyurea.



5

The method of Claim 15, wherein said second compound is selected from the group consisting of dol, ddC, 2'-F-dd-ara-A, 2'-F-dd-ara-I and 2'-F-dd-ara-G.

17. The method of Claim 12, wherein said second compound is selected from the group consisting of a dideoxynucleoside and AZT.

18. The method of Claim 16, wherein said dideoxy nucleoside is a 2'-fluoro purine dideoxynucleoside.

19. The method of Claim 16, wherein said dideoxynucleoside is selected from the group consisting of ddl, ddC, 2'-F-dd-ara-A, 2'-F-dd-ara-l and 2'-F-dd-ara-G.

20. A method of producing incomplete viral DNA from a reverse transcriptase dependent virus in animal cells, comprising the step of administering to said cells a compound that depletes the intracellular pool of deoxyribonucleoside phosphate in an amount effective to inhibit replication of said virus.

add >

WE CLAIM:

5

10

15

20

25

30

- 1. A method for inhibiting replication of reverse transcriptase dependent virus in animal cells, comprising the step of administering to said cells a compound that depletes the intracellular pool of deoxyribonucleoside phosphate in an amount effective to inhibit replication of said virus.
 - 2. The method of Claim 1, wherein said virus is a retrovirus.
- 3. The method of Claim 1, wherein said deoxynucleoside phosphate depleting compound is a deoxynucleotide synthesis inhibitor.
- 4. The method of Claim 1, wherein said deoxynucleoside phosphate depleting compound is an inhibitor of ribonucleotide reductase.
 - 5. The method of Claim 4, wherein said compound is hydroxyurea.
 - 6. The method of Claim 1, wherein said cells are in vitro.
 - 7. The method of Claim 1, wherein said animal cells are mammalian cells.
 - 8. The method of Claim 1 wherein said virus is the human immunodeficiency virus (HIV) and said cells are human cells.
 - 9. A method for inhibiting replication of reverse transcriptase dependent virus in animal cells, comprising the steps of administering to said cells a compound that depletes the intracellular pool of deoxyribonucleoside phosphate, in conjunction with administering to said cells an antiviral nucleoside phosphate analog.
 - 10. The method of Claim 9, wherein said deoxynucleotide phosphate depleting compound is an inhibitor of ribonucleotide reductase.
 - 11. The method of Claim 10, wherein said compound is hydroxyurea.
 - 12. A method for inhibiting replication of reverse transcriptase dependent viruses in animal cells, comprising the steps of administering to said cells a first compound that depletes the intracellular pool of deoxyribonucleoside phosphate, in conjunction with a second compound that serves to inhibit replication of said virus by terminating DNA chain elongation.
 - 13. The method of Claim 12, wherein said second compound inhibits replication by premature termination of viral DNA synthesis to produce incomplete viral DNA.
 - 14. The method of Claim 12, wherein said first compound is an inhibitor of ribonucleotide reductase.
 - 15. The method of Claim 14, wherein said first compound is hydroxyurea.



16. The method of Claim 15, wherein said second compound is selected from the group consisting of ddl ddC,/2'-F-dd-ara-A, 2'-F-dd-ara-I and 2'-F-dd-ara-G.

17. The method of Claim 12, wherein said second compound is selected from the group consisting of a dideoxynucleoside and AZT.

5

10

The method of Claim 16, wherein said dideoxy nucleoside is a 2'-fluoro purine dideoxynucleoside.

19. The method of Claim 16, wherein said dideoxynucleoside is selected from the group consisting of ddl, ddC, 2'-F-dd-ara-A, 2'-F-dd-ara-I and 2'-F-dd-ara-G.

20. A method of producing incomplete viral DNA from a reverse transcriptase dependent virus in animal cells, comprising the step of administering to said cells a compound that depletes the intracellular pool of deoxyribonucleoside phosphate in an amount effective to inhibit replication of said virus.

dz.